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STATISTICAL BULLETIN

Metropolitan Life Insurance Co.

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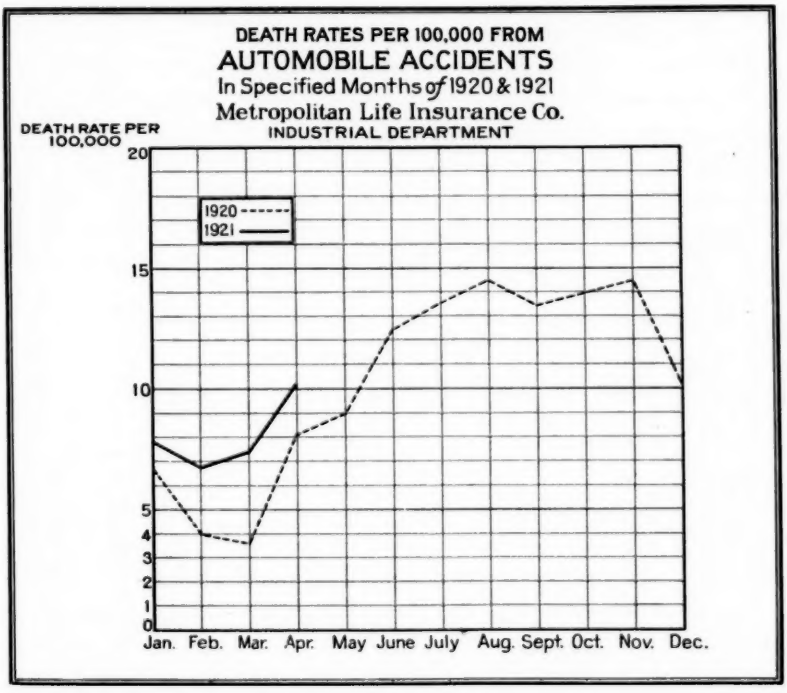
AUTOMOBILE FATALITIES STILL INCREASING.

All indications point to a mortality from automobile accidents this year that will far exceed any figure registered for any former year.



It was hoped that 1920 would mark a maximum which would never be exceeded for this class of fatalities. Statistics compiled by the Metropolitan Life Insurance Company and covering the

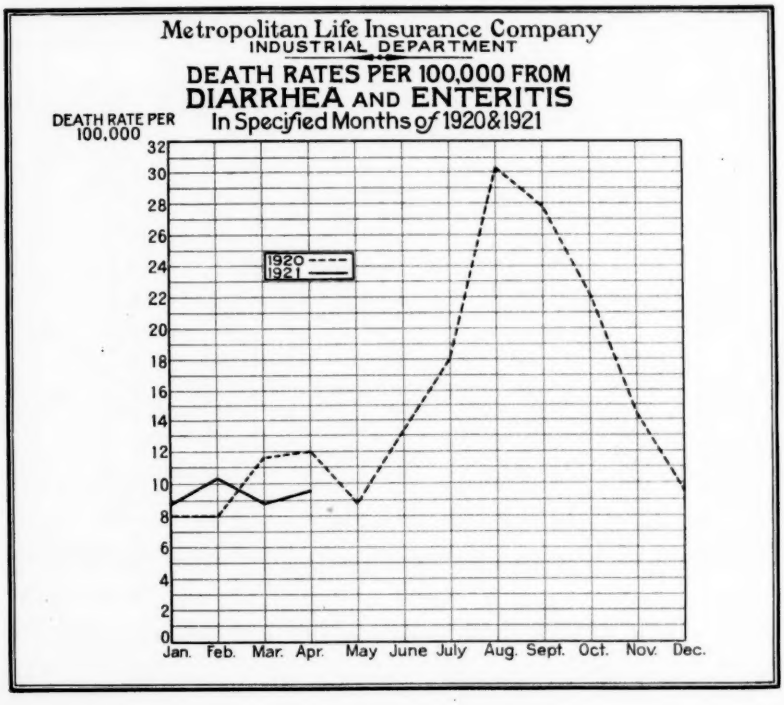
first four months of 1921 show, however, that the situation during this period has been much worse than last year.

In April, for example, there were 113 deaths from automobile accidents among the Company's Industrial policyholders. This is at a rate of 10.2 per 100,000 and is 25 per cent. higher than for April of last year. It is very close to the figure for the whole year 1920, which was 10.9. As will be seen in the chart the highest rates for the year occur during the summer and fall months. If fatalities continue to increase at the present rate, the total figure for 1921 promises very badly indeed.

There are few if any more acute problems before the public health and police authorities in American cities today than that of finding ways and means to save the large number of lives which are being lost to an increasing extent, year after year through automobile fatalities.

DIARRHEAL DISEASE CONTROL.

Diarrheal diseases increase with the approach of summer and reach their maximum in midsummer. These facts are clearly



shown by the chart which appears herewith. The time of the year therefore, is at hand for an active campaign on the part of health departments to emphasize the seriousness of this class of maladies.

Such a campaign is called for despite the fact that the diminishing death rate in recent years from diarrheal disease is one of the triumphs of sanitation. In the last ten years, the death rate from diarrhea and enteritis has shown a consistently downward trend among the Industrial policyholders of the Metropolitan, both for all ages combined and for children under two years of age. The death rate for 1920 was only a little in excess of one-half of that of ten years ago. The same downward trend has been observed in the general population of the country, although the per cent. decrease has not been quite as great as that for the Metropolitan policyholders. Several factors have played a part in causing this decline in the death rate.

Most important, undoubtedly, is the greater extent to which milk is pasteurized and its sale regulated. The effect of more general knowledge of the principles of infant feeding has been another important item; so has been the improvement of the water supply of our cities. These diseases are now distinctly recognized as "preventable." The 1921 death rate is now running below that of 1920. It is hoped that this will continue for the rest of the year.

MORTALITY RATES OF COLLEGE WOMEN.

Death rates among graduates of women's colleges in the United States are exceedingly low. A recently completed study* covering the mortality experience, after graduation, of 15,561 women, shows that at ages 20 to 64 years the death rate is only 3.24 per 1,000. Between 25 and 34 years, where nearly one-half of the total observations were centered, the death rate was 2.77 per 1,000. Among women in the general population of the United States Registration Area the death rate at this age period was more than twice as high, namely, 6.10 per 1,000.

These favorable figures seem to be due to several important causes. First, there is the selective effect of the secondary and collegiate educational process. Those physically unfit to pursue

* "Mortality Rates of College Women." Myra M. Hulst, *Quarterly Publications of the American Statistical Association,* March, 1921.

studies usually drop from the rolls. College women also come from a superior home environment; the presumption is that for nearly all of them economic and domestic circumstances have been such as to conduce to better health than the average. These women, during their lives in a college environment, also benefit from periodical medical examination and from prescribed physical exercise much more than women in the general population. After graduation many of them enter professional pursuits where the risk of death is at a minimum. Less than one-half of them are married and, therefore, not exposed to the grave risks of childbearing. Not less important is the favorable effect of the whole of college education on the right conduct of life.

The favorable death rates of graduates of women's colleges clearly indicate that the prevailing mortality among women in the general population is far in excess of what it should be. An excess of nearly 100 per cent. in the death rate of women in general over the rate for this special group, is indicative of numerous factors of life-wastage which could be controlled by intelligent community effort. The unnecessarily high mortality from diseases and conditions of the maternal state, contributes largely to the unfavorable showing. This can be reduced materially through prenatal nursing, through the provision of better obstetrical service and, indirectly, through the several forms of popular instruction in personal and domestic hygiene. Much can be done, too, in further reducing the tuberculosis death rate of women in the general population by continuing the work of the tuberculosis movement, providing adequate facilities for the detection of the disease in the early stages and for hospital and sanatorium care of the cases which come under observation.

The low mortality rates, such as college women enjoy, should be the goal of public health work for all women. These figures serve as a standard to be attained through the improvement of living and working conditions, through education in hygiene and through adequate protection of maternity from unnecessary and controllable hazards.

HIGHER ABDOMINAL TUBERCULOSIS DEATH RATE AMONG FEMALES.

Mortality statistics covering a long period of years show that abdominal tuberculosis is the only form of tuberculous disease which has a higher death rate among females than among males. For tuberculosis of the lungs, tuberculous meningitis, tuberculosis

of the vertebral column, tuberculosis of the joints, tuberculosis of all the other organs not enumerated above, and for disseminated tuberculosis, the mortality is invariably much higher among males. The fact that the sex incidence of abdominal tuberculosis is contrary to that of all other forms is possibly very significant. We believe that it is well worth while to bring it to the attention of students of tuberculous disease.

Investigation also shows that this excess in the mortality of females over males is limited to the age period between ten and fifty years. For decedents under ten and over fifty years, the rates are somewhat higher for males. This is true both in the experience of the general population and that of the Industrial policyholders of the Metropolitan Life Insurance Company. This suggests that the reason for the sex difference may lie, to some extent, in the influence of the conditions related to maternity, especially the injuries at confinement. There is also the possibility that there is a relationship between non-puerperal diseases of the female genitals and abdominal tuberculosis. One prominent tuberculosis authority has suggested that the various diseases of the female sex organs probably reduce the powers of resistance and enable the tubercle bacillus to gain a foothold. Thus tuberculous peritonitis often follows diseases of the uterus and adjacent organs. It is certain that throughout life, in adolescence, during the childbearing period and at the climacteric period the female generative organs are subjected to much greater strain than those of the male. These facts may explain the observed difference between the death rate of the sexes from abdominal tuberculosis.

Further research is obviously required into this interesting subject.

INQUIRY INTO THE CAUSAL RELATIONSHIP BETWEEN INITIAL DENTAL AND ORAL INFECTIONS AND CERTAIN OTHER DISEASES.

The New York State Dental Society and the Metropolitan Life Insurance Company are co-operating in a study of dental and oral infections as causative factors in certain acute and chronic diseases. The study is confined to fatal cases. It is proposed to send a sufficient number of letters of inquiry to physicians in cases in which the causes of death are diseases which

are known sometimes to follow dental and oral infection. The physician will be asked to state, in each instance, whether the reported causes of death were direct sequelae or in any way dependent upon the initial infections of the teeth or buccal cavity. When enough replies are received to afford a safe basis for a conclusion, the facts will be tabulated and published. For the present, the letters of inquiry will be sent out in all cases where any of the following are reported as causes of death:

Infectious arthritis.
Arthritis deformans.
Osteomyelitis (either when reported without qualification or when reported as located in bones of head or face).
Acute articular rheumatism.
Rheumatic fever.
Infectious endocarditis (also endocarditis returned without qualification).
Pericarditis.
Myocarditis.
Mitral regurgitation (decedents under 50).
Septicemia (cause not stated).
Anemia (both pernicious, and when returned without qualification).
Chronic gastritis (also gastritis, unqualified).
Colitis.
Peptic ulcer (also gastric ulcer).
Meningitis (spinal, cerebral, cerebrospinal, or unqualified).
Neuralgia.
Skin diseases.

It is recognized that in a considerable number of instances dental and mouth diseases initiate morbid processes in other vital organs which ultimately result in death. In such cases, physicians have been known to neglect to record the part which the original infections have played. Very few records of authentic cases where dental diseases caused death are, therefore, at hand. There are many indications that they do play a significant part. This investigation is instituted to help determine to what extent dental disease is a primary condition. Many cases where it is contributory to other primary diseases will, of necessity, be recorded.

Physicians who have knowledge of well authenticated cases of serious illness and of death which resulted from conditions

having their origin in mouth and dental infections are requested to be good enough to send a record of such cases to the Statistical Bureau of this Company.

THE AFTER HISTORY OF TUBERCULOSIS PATIENTS DISCHARGED FROM SANATORIA.

The plan of a follow-up system for patients discharged from sanatoria outlined in the Statistical Bulletin of July, 1920, has been undertaken by the National Tuberculosis Association in co-operation with the American Sanatorium Association. It is possible even at this early date to announce that about 90 out of the total of 600 sanatoria of the country have already accepted the plan and will co-operate in every way to carry it out. These include state, municipal, county and private institutions. The response has been very enthusiastic indeed and the replies indicate that, ultimately, a large proportion of all the sanatoria of the country will participate. Some are the very largest institutions in the country and all maintain the highest standards.

The National Tuberculosis Association is very much gratified with the character of the response to its invitation. It has established a section for the administration of this co-operative effort under the direction of Miss Whitney, the Research Secretary of the Association. A total of over 21,000 cards has been distributed so far to the co-operating sanatoria with instructions for the completion of the forms and with other directions necessary for the carrying out of the plan on uniform lines. Under the plan, the sanatoria send the simple record form to their discharged patients on each anniversary of the date of their discharge. The record, when completed, will give a history of the patient's physical condition, of his occupational history during the year, and of the character of the medical service received. The reverse of the form is for a statement from the patient's physician. The form is accompanied by a personal and friendly letter to the patient which has the effect of cementing the ties between him and his sanatorium. This is a vital part of the plan.

The success of this endeavor will mean much to the tuberculosis movement in the United States; for it will, before very long, help to answer the basic question as to the part which the tuberculosis sanatoria are playing in the continued reduction of the tuberculosis death rate. It will, moreover, have the very

salutary effect of developing a standard practice in this one respect at least among a large number of institutions, and this may, in the long run, help to standardize other work done by the various sanatoria.

It is an interesting commentary on the favorable receipt of this plan that the War Risk Insurance Bureau has already promised to give the National Tuberculosis Association returns for all beneficiaries who are receiving care under the War Risk Insurance Act in the various tuberculosis sanatoria of the country.

HEALTH REPORT OF APRIL, 1921

The favorable health situation which has been in evidence for many months continued during April. The death rate dropped from 1015.0 per 100,000 lives exposed in March, to 921.5. This represents a decline of 9.2 per cent. The death rate was 17.1 per cent. lower than that for April, 1920.

The low death rate is due, largely, to continued low mortality from tuberculosis, organic heart disease and pneumonia. As these diseases combined are responsible for about 40 per cent. of the deaths in the Industrial Department of the Company, low rates for them are certain to affect very favorably, the figure for all causes combined. The tuberculosis rate was practically unchanged from the low figure of March. That for organic diseases of the heart declined 11.1 per cent.

Probably the most noteworthy feature of the public health situation in April, however, was the decline in the mortality from pneumonia. The rate dropped from 120.9 per 100,000 in March to 88.0 in April. This represents a decrease of over 27 per cent. While it is true that we expect a seasonal decrease in the pneumonia rate in April as compared with that for March, former experience has not shown so great a drop. The pneumonia rate for April of last year was 124.6.

There are certain unfavorable features of the health situation which deserve comment. Scarlet fever caused 104 deaths with a rate of 9.4. While not an important cause of death numerically, as compared with many other diseases, scarlet fever, during the past five months, has been very prevalent over a wide area of the country. Puerperal conditions, which for the most part come under the head of "preventable" diseases, still continue to cause a large number of deaths. Increases were registered

in April for both suicides and homicides. In the case of the latter, the rise was one of 24.5 per cent. We have referred on another page to the increased death rate for automobile accidents.

As among insured lives, the death rate for the general population in the large cities of the United States, showed a further decline during April. This rate was 12.9 per 100,000 estimated population, as compared with 13.8 for both March and February. The figure for April, 1920, was 14.8.

The number of cases and deaths reported for the communicable diseases during the month declined considerably. Smallpox continued to be reported from Alabama, California, Florida, Georgia, Illinois, Indiana, Kansas, Missouri and Ohio. In Toledo, Ohio, pupils were excluded from the schools where smallpox cases had occurred and health department physicians and nurses visited the classes and excluded all pupils who were not judged to be immune. Seneca County, Ohio, is entirely free from the disease for the first time in nearly a year.

Influenza has been more or less prevalent in Arkansas, California, Connecticut, Georgia, Illinois, Maine, Indiana, New Jersey, New York and Wisconsin. Sixty-two cases with six deaths were reported from Chicago for the week of April 23d, as against 26 cases and two deaths for the preceding week. This sudden rise caused the Commissioner of Health to issue warnings of a possible epidemic. In Portage, Maine, many children have been ill with a mild form of the disease which appears to be quite general throughout the state.

Scarlet fever has been prevalent in several areas. In Detroit there were over 80 cases during each of the earlier weeks, and the number increased to 98 during the last week of April. An epidemic of the disease in Skowhegan, Maine, was quickly quelled. After the first cases appeared in March, the schools were fumigated and the pupils examined every day. The epidemic, as a result, was restricted to 49 cases, most of which were light ones. In Chicago, volunteers are being requested for tests to discover a serum to prevent scarlet fever.

Diphtheria showed an upward trend in Chicago, Detroit and New York City during the latter part of the month. There was an increase also in the State of Connecticut. The weekly morbidity report issued for the third week of April showed the value of free distribution of diphtheria anti-toxin. Prior to 1894,

when anti-toxin was first used by physicians in Connecticut, 25 to 40 per cent. of the diphtheria cases died. By 1900 this had been reduced to 17.9 per cent.; by 1910 to 11.7 per cent., and in 1920 to 6.3 per cent. New York City started a campaign against this disease on April 14th. Experts, after a tour of the city, reported a much higher percentage of children in the congested sections of the city were immune than those in schools where better living conditions prevailed.

Cases of "sleeping sickness" were reported from Kansas City, Missouri; Lancaster, Pennsylvania, and Winchendon, Massachusetts.

Leprosy was reported from Waterbury, Connecticut, and Chicago, Illinois.

In New York City, the Health Department is urging the enforcement of the muzzling ordinance as a result of the increasing number of persons bitten by dogs and cats this year. During the first quarter, 20 animals examined by the Health Department were found to be suffering from rabies. This is the largest number during a similar period in many years.

Reports from abroad show fairly good health conditions. The Superior Board of Health of Quebec, Canada, announces that the smallpox quarantine which had been in force against the Ottawa and Hull Districts has been raised. In Vienna, smallpox and malaria, which had been virtually unknown before 1914 were reported to be occurring in increasing numbers. Bubonic plague prevails at Alexandria, Egypt.

Smallpox in epidemic form has appeared at Iquique, Chile. There have been fresh outbreaks of the disease in the Union of South Africa. The mild form in which the disease appeared in Haiti, a few weeks ago, has developed into one so serious that all public places have been closed. As yet the cases have been limited to the natives.

Alastrim still prevails in Jamaica and quarantine measures have been made effective in Cuban ports against arrivals from that island. Typhus fever outbreaks were reported in the rural districts in the Cape Province and in the Orange Free State, Union of South Africa.

The influenza outbreak among the American forces in Germany did not increase, and it is believed that the peak of the outbreak has been reached.

The Province of Alberta has established a department of public health nursing.

The following table displays the mortality data for April in comparison with those for March, 1921, and for the whole year 1920:

METROPOLITAN LIFE INSURANCE COMPANY.

Death Rates per 100,000 for Principal Causes, Premium-paying Business in Industrial Department.

MONTHS OF MARCH AND APRIL, 1921.

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED		
	Apr., 1921	Mar., 1921	Year 1920
TOTAL—ALL CAUSES	921.5	1015.0	968.4
Typhoid fever	3.3	3.1	6.5
Measles	5.4	5.9	8.3
Scarlet fever	9.4	9.5	5.9
Whooping cough	3.8	6.2	6.5
Diphtheria	18.4	24.4	21.6
Influenza	14.8	17.1	52.3
Tuberculosis (all forms)	133.4	133.9	135.0
Cancer	70.0	73.0	68.3
Meningitis (all forms)	7.1	6.4	5.1
Cerebral hemorrhage	57.3	68.1	60.1
Organic diseases of heart	124.3	139.9	114.6
Pneumonia (all forms)	88.0	120.9	103.9
Other respiratory diseases	13.1	17.8	17.8
Diarrhea and enteritis	9.6	8.8	15.5
Bright's disease	76.8	74.2	69.4
Puerperal state	22.0	24.3	22.5
Suicides	7.2	6.1	6.0
Homicides	6.1	4.9	5.7
Other external causes (excluding suicides and homicides)	45.1	44.7	58.1
Traumatism by automobile	10.2	7.4	10.9
All other causes	206.4	225.7	185.3

Correspondence on the subjects discussed in these BULLETINS may be addressed to the Editor:

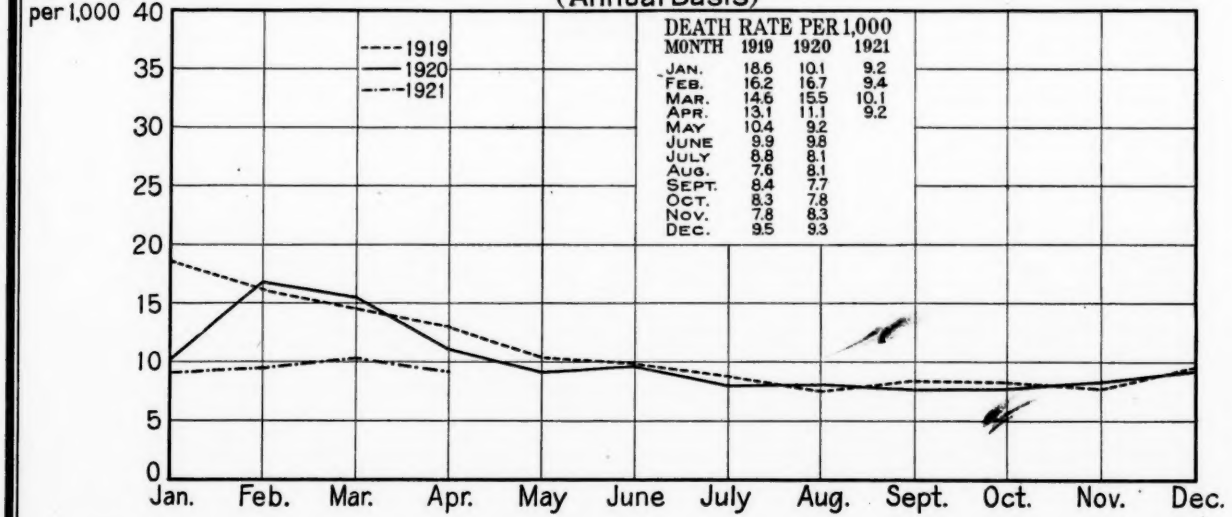
STATISTICAL BULLETIN,
Metropolitan Life Insurance Company,
1 Madison Avenue, New York City.

Metropolitan Life Insurance Co.

INDUSTRIAL DEPARTMENT

DEATH RATE PER 1,000 in specified months of 1919,1920,1921

(Annual Basis)



DEATH RATE PER 1,000			
MONTH	1919	1920	1921
JAN.	18.6	10.1	9.2
FEB.	16.2	16.7	9.4
MAR.	14.6	15.5	10.1
APR.	13.1	11.1	9.2
MAY	10.4	9.2	
JUNE	9.9	9.8	
JULY	8.8	8.1	
AUG.	7.6	8.1	
SEPT.	8.4	7.7	
OCT.	8.3	7.8	
NOV.	7.8	8.3	
DEC.	9.5	9.3	

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